

The NIH Record

U.S. Department
of Health
and
Human Services

August 27
1985
Vol. XXXVII
No. 18

National
Institutes
of
Health

Dr. R. Genco To Give Kreshover Lecture



Dr. Robert Genco has been selected as the 1985 NIDR Kreshover Lecturer. He will present his lecture on periodontal disease Sept. 10 in the ACRF Amphitheatre.

The discovery of abnormalities in the neutrophil—the body's major line of defense against bacteria that cause gum disease—may explain the increased susceptibility of some persons to severe periodontal infection.

Details of these findings will be presented at the National Institute of Dental Research's second annual Seymour J. Kreshover Lecture on Tuesday, Sept. 10 at 3:30 p.m. in the ACRF Amphitheatre.

Dr. Robert J. Genco, professor and chairman of the oral biology department, School of Dental Medicine, State University of New York at Buffalo, will deliver the honorary lecture entitled: "Molecular Factors Influencing Neutrophil Defects in Periodontal Disease."

The lecture series, named for former NIDR Director Dr. Seymour J. Kreshover (1966-1975), was established to recognize outstanding scientific accomplishments in basic and clinical research and to honor distinguished scientists who have made important contributions in fields directly related to the research interests of the Institute.

The selection of Dr. Genco as the 1985 Kreshover Lecturer highlights NIDR's research emphasis on periodontal diseases, inflamma-

(See *KRESHOVER LECTURE*, Page 11)

Learning About Learning at a Snail's Pace

By Lynn Cave

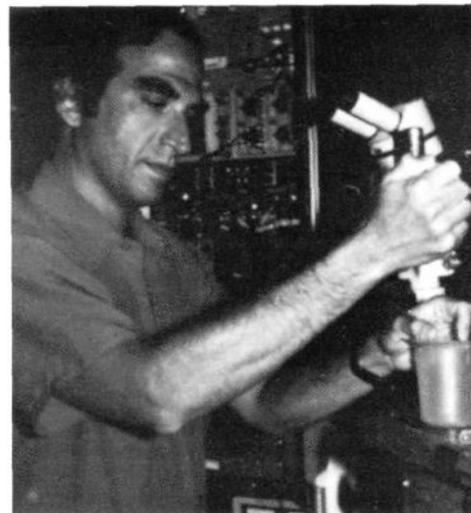
The resounding tenor of a Placido Domingo or the hushed strains of a mother's lullaby can be captured when a recording machine makes distinct changes in the physical properties of a magnetic tape.

Like recordings of operas or lullabies, knowledge can be played back at will. Could our ability to record the things we have learned be similar to the tape machine's ability to record music? Is the brain making discrete (separate) changes in the physical properties—not of magnetic tape, but of nerve cells?

The answer emerging from an NINCDS laboratory on Cape Cod is a definite yes.

Here, working in a brick building at the Marine Biological Laboratory, Dr. Daniel Alkon is learning about learning. He has been able to show in a simple sea snail that learning occurs when certain holes in the membranes of nerve cells close. That the same or similar discrete changes occur when humans learn is very likely, the NINCDS scientist explains, because our nerve cells have comparable holes, or channels.

"It seems nature only wrote one prescription for certain channels," Dr. Alkon says. "We have every reason to believe that these channels are basically the same across a wide range of species."



Dr. Daniel Alkon has discovered that learning can occur when certain holes, or channels, in the membranes of nerve cells close.

It has taken Dr. Alkon, a member of the NINCDS Laboratory of Biophysics, more than 15 years to assemble the evidence tracing

(See *LEARNING*, Page 11)

Four New NINCDS Neuroscience Research Centers Named in Honor of Former U.S. Senator Jacob Javits

The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) has issued its first awards establishing four Senator Jacob Javits Centers of Excellence in Neuroscience.

Javits Centers will be established at Rockefeller University; the University of California, San Francisco; Washington University, St. Louis; and Yale University.

These 5-year program project grants, as directed by the Congress, will support "multidisciplinary teams of the most capable scientists [addressing] fundamental biological issues of nervous system structure and function." Their overall objective is to provide the information necessary for finding the cause, prevention, and cure for neurological diseases.

"The Centers are a pilot grant program in which distinguished scientists are given the opportunity to pursue concepts at the frontiers of knowledge rather than being limited by specific, in-depth protocols," says Dr. Murray Goldstein, NINCDS Director. "Accomplishments resulting from the development of these

concepts could be critical to making important leaps forward in the neurosciences."

The Javits Center at Rockefeller University will be headed by Nobel laureate Dr. Gerald M. Edelman, who will direct a team studying the coordination of neural cell interactions. The investigators will address several problems in developmental neurobiology including neural degeneration and regeneration, synapse formation, and the formation, function, and dysfunction of sensory circuitry.

Dr. Stanley B. Prusiner will direct the Javits Center at the University of California, San Francisco. Dr. Prusiner and his research team have proposed to elucidate the chemical nature of an unusual infectious particle known as the scrapie agent, or prion. Scrapie, a brain disease of sheep, is the prototype of five so-called "slow viral diseases." These diseases include Kuru and Creutzfeldt-Jakob disease, which destroy the brains of humans.

The Javits Center at Washington University

(See *JAVITS CENTERS*, Page 10)

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated by request to writers and to researchers in biomedical and related fields. The content is reprintable without permission. Pictures may be available on request.

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TRAINING TIPS

The following courses are sponsored by the Division of Personnel Management, Development and Training Operation Branch.

Executive, Management, and Supervisory	Course	Starts	Deadline
Introduction to Supervision		10/21	9/13
Strategic Planning for Productive Results		10/16	9/6
Supervising in the Federal Wage System		10/7	8/30
The Androgynous Woman		9/19	N/A
Interpersonal Relationships		10/30	9/20
Managing Behavior in the Work Environment		10/30	9/20

INTRAMURAL

Using Animals in Intramural Research: Guidelines for Investigators	10/15	9/7
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Adult Education (call 496-6211)

Training and Development Services Program (call 496-6211)

Support Staff Training (call 496-6211)

Introduction to Working at NIH	9/18	9/3
Effective Writing for Secretaries	10/7	8/26
Secretarial Skills	10/7	8/26
Medical Terminology I	10/1	8/19
Time & Attendance	10/30	9/17
Proofreading	10/2	8/19
Travel Orders & Vouchers	10/21	9/9

Automation/Computer Training (call 496-6211)

Refresher Typing	10/1	8/20
Implementing Office Automation at NIH	10/1	9/16
Lotus 1,2,3	9/17	8/22
dBase I, II, III	9/30	8/30
Data Base III	9/30	8/30
Computer Literacy for Secretaries	10/3	8/19

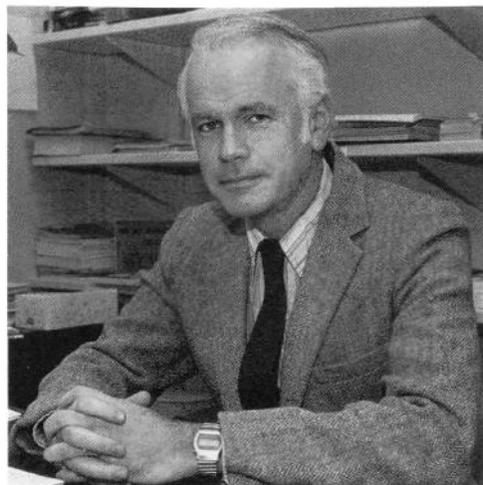
Institute of Medicine Elects Dr. Frederick K. Goodwin

Dr. Frederick K. Goodwin, Director of Intramural Research at the National Institute of Mental Health, has been elected to the Institute of Medicine, the health research policy arm of the National Academy of Sciences.

He is one of 16 psychiatrists among 461 physicians who are so recognized for their professional achievements and demonstrated commitment to research and larger issues of public health.

Dr. Goodwin joins four NIH colleagues, Drs. Vincent T. DeVita Jr., Donald A.B. Lindberg, Harald Løe and Roscoe O. Brady who were also elected to the IOM this year. (See *NIH Record*, July 2 and 16.)

A leading investigator into biological factors in mental illness, Dr. Goodwin helped pioneer



Dr. Goodwin

development of lithium as a treatment for manic depressive illness and is coauthor of a major forthcoming book on that disorder.

Dr. Goodwin's research has also identified malfunctioning biological rhythm disturbances in depression and has linked altered activity of the neurotransmitter serotonin to violent, impulsive behavior, including suicide.

He is one of only five psychiatrists to be included in the *Current Contents* list of the most frequently cited authors worldwide.

As scientific director since 1982, Dr. Goodwin has reorganized NIMH's intramural laboratories and branches—eliminating some while establishing and nurturing others—to better take advantage of the rapid advances in the brain sciences and to enhance opportunities for promising younger investigators.

Among many honors, Dr. Goodwin has been the recipient of the SES Presidential Meritorious Executive Rank Award, the Edward A. Strecker Award, the Hofheimer Prize and the International Anna Monika Prize. □

Fall Exercise Classes Scheduled

BodyWorksWonders is offering two kinds of classes this fall. Tuesday, Sept. 3 through Thursday, Oct. 24, classes will be held from 12:15 to 12:45 p.m., 14th fl. gym, Clinical Center. For 8 weeks—2 classes per week—will cost \$36. On Wednesdays, Sept. 4 through Oct. 23, classes will be held from 5:15 to 6:15 p.m., 14th fl. gym, CC; 1 class per week costs \$30; 2 classes per week costs \$40. □

U.S., U.S.S.R. Cooperate To Study Arthritic Children

Results of the first cooperative medical project on treatment of children with arthritis held between the United States and Russia were recently reported by Dr. Earl Brewer, Texas Children's Hospital, Houston, during the annual meeting of the American Rheumatism Association in California.

According to Dr. Brewer, "Successful cooperative medical research between the USA and USSR provides a unique opportunity to study diseases and therapies in a much broader based population."

It is estimated that more than 250,000 children have some form of arthritis. Purpose of the study was to evaluate the safety and effectiveness of "slow-acting" adult drugs for the treatment of children with arthritis.

A total of 162 children—age 18 months to 17 years—were monitored for more than one year. Children were divided into three groups, those taking penicillamine, those taking hydroxychloroquine, and those in a control group taking a placebo.

During the study, all children continued to take a nonsteroidal anti-inflammatory drug. Identical procedures were followed by the 13 pediatric rheumatology centers in this country, and the 5 centers in the USSR.

Although more than half of the children taking penicillamine and hydroxychloroquine (an anticancer drug) improved, a similar number of patients taking the placebo also improved, Dr. Brewer reported.

"Our findings point out that one has to be careful in evaluating short-term treatment of juvenile arthritis with these drugs since they did not offer a significant advantage over nonsteroidal anti-inflammatory drugs," he said.

Additional studies of children with rheumatoid arthritis are already under way to examine the therapeutic effect of the new oral gold compound auranofin. □

Product Hazard Warning!

Hewlett-Packard has notified NIH that a possible electric shock hazard exists to users of two models of their HP data acquisition/control units. Specifically, the rear panel Safety Covers on HP Models 3497A and 3498A or HP system Models 3054A, 3054C and 3034 DL ordered with Option 400 do not adequately protect the user from an electric shock source which may be as high as 170 volts DC.

Hewlett-Packard records reflect that a total of 13 units have been delivered to NIH which may require minor modifications to ensure their safe operation. However, their records are not complete enough to permit identifying individual purchasers within NIH.

The Occupational Safety and Health Branch, Division of Safety, has alerted the biomedical Engineering and Instrumentation Branch, DRS, and the Property Utilization Section, DAS, (surplus property) of this matter.

Although attempts are being made to contact individual users through property records, some of these records may not be current. Should you be using or possess any of the above models of HP data acquisition/control units, please contact the Occupational Safety and Health Branch on 496-2346.

Breast Cancer/Chemotherapy Topic of Sept. 9-11 Meeting

A Consensus Development Conference on Adjuvant Chemotherapy for Breast Cancer will be held at the Clinical Center in Masur Auditorium, Sept. 9-11.

The schedule of the conference will be as follows:

Sept. 9—8:30 a.m. to 6 p.m.; Sept. 10—8 a.m. to 3 p.m.; Sept. 11—8:30 a.m., Reading of the Consensus Statement; 10:30 a.m.—Consensus Panel Executive Session, and 12 noon—Press Conference.

Key questions to be addressed at the consensus conference:

- Have adjuvant chemotherapy trials in breast cancer demonstrated an increase in survival in any group of patients?
- Are there significant adverse effects of adjuvant therapy?
- What is the role of endocrine treatment in the adjuvant therapy of breast cancer?
- When should women with histologically negative axillary (armpit) lymph nodes receive adjuvant therapy?
- What directions for future research are indicated?

The conference is sponsored by the National Cancer Institute and the Office of Medical Applications of Research.

For more information, call Joyce Doherty, NCI, 496-6641, or Michael Bernstein, OMAR, 496-1143. □

R&W Offers Canoe/Raft Trips On Labor Day Weekend

R&W is offering canoe/raft trips on the Yougheny River, Pa. Sept. 1-2.

The canoe and raft trips each cost \$25 per person (plus \$1 service fee). Camping and motels are available nearby.

Sign up for the canoe trip (Sept. 1); the raft trip (Sept. 2); or both, at the R&W Activities Desk, Bldg. 31. □

Word Processors User Groups Forming Now

Interested in improving your word processing (wp) skills? Want a chance to explore new and better ways of working on your wp equipment and meet others who use your same system?

If so, you will want to join one of the NIH wp user groups.

WP users groups will help you become more proficient on your wp equipment. By meeting just once a month for an hour you will not only learn new functions and applications for your wp equipment, but will also have a chance to exchange ideas with other wp users.

At these meetings information about user groups will be discussed and ideas are needed. These meetings are open to all individuals including secretaries, scientists, managers, and administrators currently using wp equipment.

If you have any questions please contact the

Bel Ceja, Special Assistant to NIH Director, Retires After 29 Years Federal Service at NIH

Belia "Bel" L. Ceja, special assistant to the NIH Director, is retiring Sept. 3 after 29½ years of Federal service. In her job, Mrs. Ceja has acted as a facilitator and a conduit between the NIH Director and those who come to see him. She has also been responsible for maintaining the operation of the immediate Office of the Director in a smooth and efficient manner which is sometimes easier said than done.

Originally from Chicago, Mrs. Ceja came to NIH in 1959 to work for the Division of Administrative Services in Bldg. 13. She then went to work in Bldg. 1 for Gen Garner in the Office of Administrative Services and stayed until 1964. She later left, knowing that she could return to work after being out of the work force while raising her two children, Sybil and Paul.

In 1965, she was asked to fill in temporarily for someone on sick leave in Bldg. 1 and never left. She became secretary to NIH Deputy Director Dr. Stuart M. Sessoms and to his successor, Dr. John F. Sherman.

In 1972, she was asked to become committee management officer, responsible for maintaining the operation and membership of all NIH committees and advisory councils for each Bureau, Institute, and Division. Mrs. Ceja was then asked to apply for the Special Assistant to the Director job, and started working under NIH Director Dr. Robert S. Stone in 1973. Since then, Mrs. Ceja has worked for Drs. Ronald W. Lamont-Havers, Donald S. Fredrickson, Thomas E. Malone, and current NIH Director Dr. James B. Wyngaarden.

"I've always said that I have the best job at NIH," Mrs. Ceja said. "I've been lucky. There's never been a day when I haven't wanted to come to work—it's been a pleasure. I've made very good friends, and I've worked with the cream of the crop. They've all been an inspiration—they all have goals, and it's always been for the good of NIH. I'm sorry to go, but look forward to joining Dr. Fredrickson at the Howard Hughes Medical Institute," she said.



Mrs. Ceja, Special Assistant to the NIH Director, has had an interesting and exciting career at NIH.

"It's been a privilege to have worked under her and with her for the past 11 years," said Margaret Quinlan, secretary to NIH Director Dr. Wyngaarden. "She really believes in team work—it's been like a family in this office through all the years. And it is Bel who has been the soul of the family and who set the tone for the office," she added.

In 1977, Mrs. Ceja received the NIH Director's Award "for virtuosity in maintaining the smooth and efficient operation of the Immediate Office of the Director, a role she performs with exceptional diligence, tact, and good judgment."

Mrs. Ceja will be missed for the special role that she has filled at NIH, and will surely apply her valuable knowledge, skills, and expertise to keep things running smoothly in her new position. □

dBAFFLED by dBASE?

If you use (or would like to use) the dBASE III software package and you have questions or have run into difficulties, expert help is available.

Beginners and experienced users can receive assistance from dBASE consultants, who also can oversee your hands-on practice at the User Resource Center, Bldg. 31, Rm. B2B47, 9 a.m. to noon on any Tuesday. No appointment is necessary to have your questions answered and learn how to:

- Benefit from dBASE's diverse capabilities
 - Key into dBASE instructions
 - Create reports and labels
 - Upload/download to dBASE with Telios
 - Search character strings
 - Use word processing packages from dBASE
 - Develop command files
- dBASE consultation sessions are sponsored by Personal Workstation Office, DCRT. □

NIH office technology coordinator, Dona Lenkin, Division of Management Policy on 496-2832. We look forward to hearing your ideas.

Listed below are the dates, times and locations for the first wp user groups meeting.

	Date	Time	Bldg.
Wang	9/5	10 a.m.	31/11A30
Xerox	9/10	10:30 a.m.	31/Conf. Rm. 8
NBI	9/11	10 a.m.	31/Conf. Rm. 2
Lexitron	9/30	10 a.m.	31/Conf. Rm. 4
IBM	10/1	10 a.m.	31/11A10

The art of medicine consists of amusing the patient while nature cures the disease.—Voltaire

NLM Hosts Artificial Intelligence Workshop Attended by Over 100 AI Researchers, Experts

The 11th annual Artificial Intelligence in Medicine (AIM) Workshop on July 10-12 brought together over 100 researchers, clinicians, and students interested in applying the increasingly sophisticated powers of computer technology to medical diagnosis and to a variety of other medical issues. The workshop was hosted by the National Library of Medicine.

Researchers in medical AI, though relatively few, have already had a substantial impact on the broader field of artificial intelligence—particularly in areas of expert systems and knowledge representation.

The workshop, cosponsored by NLM and the Division of Research Resources, was held at the Library's Lister Hill Center.

Backgrounds of participants varied from pure computer scientists interested in artificial intelligence techniques, through "knowledge engineers" who bridge the gap between computer science and medical applications, to clinicians receiving their first exposure to research in artificial intelligence, and about 40 graduate students.

Presentations tended to be relatively informal, with emphasis on work in progress and the current thinking at the cutting edge of the research process. There were useful accounts of dead-ends and unsuccessful paths taken, which help others to avoid pitfalls. A report on the 1985 AIM Workshop is planned for publication in an upcoming issue of *AI Magazine*, the



Drs. Betty Pickett (l) and Donald A. B. Lindberg at the 1985 Artificial Intelligence in Medicine Workshop. Dr. Pickett, Director of the Division of Research Resources and Dr. Lindberg, Director of the National Library of Medicine, were cosponsors of the workshop at the Lister Hill Center.

journal of the American Association for Artificial Intelligence.

Earlier AIM workshops have been held in several centers of research activity, including Stanford, Rutgers, MIT, the University of Pittsburgh, and Ohio State University. This is

the first time NLM has hosted the AIM Workshop, although for several years the Library has funded AIM projects through its extramural programs. DRR has funded the SUMEX-AIM computer facilities at Stanford and Rutgers used by many AIM researchers, and has supported a number of AIM projects.

Plenary sessions of the workshop made full use of the superb audiovisual support facilities of the Lister Hill Auditorium. For the first time, the entire group was able to view a system demonstration driven from the high-resolution graphics screen of the artificial intelligence workstations used widely in the AIM community.

The program also included small group discussions, tours of NLM facilities and research projects, a poster session, and a banquet featuring speaker Dr. William F. Raub, NIH's Deputy Director for Extramural Research and Training.

A session of parallel system demonstrations, less formal than those presented in plenary session, allowed rare opportunities for hands-on experience with running systems while the system developers were present.

The first three videotapes in a series on expert systems in medicine produced by NLM's Audiovisual Program Development Branch were shown, along with several tapes produced by Stanford and Xerox featuring additional AIM systems. The 15-minute videotapes, which generated considerable interest at the workshop, will be made available for general distribution through standard NLM loan procedures. □

NIMH Scientists Captured Three Gold Medals, Several Other Awards During Past Year

Three gold medals are among several major honors conferred on National Institute of Mental Health intramural scientists during the past year.

The Academy of Sciences of the German Democratic Republic conferred its Leibniz Gold Medal on Dr. Julius Axelrod of the NIMH Laboratory of Cell Biology. A 1971 Nobel Prize recipient for his pioneering studies on catecholamine metabolism, Dr. Axelrod also became the first American to be elected to Foreign Member status in the East German Academy.

The President of Italy bestowed that Nation's Gold Medal for "Bene Meriti della Cultura" on Dr. Emino Costa, chief of the NIMH Laboratory of Preclinical Pharmacology. Located at St. Elizabeths Hospital, Dr. Costa's laboratory has been a training mecca for young neuroscientists from around the globe. He was cited for his nurturance of science in his native Italy. A member of the National Academy of Sciences and authority on brain chemical messenger systems, Dr. Costa will be retiring from NIMH this Fall to head a new neuroscience institute at Georgetown University.

The Gold Medal Award from the Society for Biological Psychiatry went to Dr. Robert Post, chief of the NIMH Biological Psychiatry Branch, for his overall contributions to the field. The youngest investigator ever to be so honored, Dr. Post is credited with developing the anticonvulsant drug carbamazepine into a treatment for manic-depressive patients who are resistant to lithium and cycle rapidly between episodes of mania and depression. Dr. Post was the recipient of the American Psychiatric Association's Foundations Fund Prize last year.

The Maryland Academy of Sciences named NIMH's Dr. Steven Paul "Outstanding Young Scientist for 1985." Chief of the Institute's Clini-

cal Neuroscience Branch, Dr. Paul has probed brain mechanisms mediating appetite, obesity and anxiety. His clinical research team has recently established a strong link between an indicator of brain dopamine activity found in blood and psychotic symptoms in schizophrenia. He was cited for his contributions to neuropharmacology and their applications to clinical psychiatry.

published in the November 1985 issue of *Biological Psychiatry*.
As reported earlier this year in the *Record*,



Dr. Axelrod



Dr. Costa



Dr. Post



Dr. Paul

cal Neuroscience Branch, Dr. Paul has probed brain mechanisms mediating appetite, obesity and anxiety. His clinical research team has recently established a strong link between an indicator of brain dopamine activity found in blood and psychotic symptoms in schizophrenia. He was cited for his contributions to neuropharmacology and their applications to clinical psychiatry.

A study exploring the role of the peptide somatostatin in depression and other psychiatric illness brought Dr. David Rubinow an A.E. Bennett Award this year from the Society for Biological Psychiatry. Chief of the unit on peptide studies of the Biological Psychiatry Branch, Dr. Rubinow also heads NIMH's Consultation Liaison Service to the NIH Institutes. His award winning article "Cerebrospinal Fluid Somatostatin and Psychiatric Illness" will be

Dr. William Freed of NIMH's Neuropsychiatry Branch was a recipient of the Flemming Award given to the 10 outstanding young Federal employees by the Downtown D.C. Jaycees, and Dr. Terry Reisine of the Laboratory of Cell Biology received the FAES Yoshio Sato International Award.

One of 11 Presidential Design Awards presented earlier this year by the Department of Housing and Urban Development went to Dr. John Calhoun, formerly of NIMH's Laboratory of Brain Evolution and Behavior at the Poolesville, Md., animal center and now with the Institute's Laboratory of Clinical Science.

Dr. Calhoun was honored for experimental habitats he designed for population studies at Poolesville which employed novel programmed environments to help rodents cope with the effects of overcrowding. □

Five New Members Join NHLBI Advisory Council

Five new members have been appointed to the National Heart, Lung, and Blood Advisory Council of the National Heart, Lung, and Blood Institute.

The new members are Dr. Ralph L. Nachman, chief, division of hematology and professor of medicine, Cornell University Medical College (CUMC), N.Y.; Dr. O. Howard Frazier, associate professor of surgery, University of Texas Medical School, Houston; Dr. John F. Murray, chief, chest service, San Francisco General Hospital, and professor of medicine, University of California, San Francisco; Dr. Sandra Lee Hofmann, medical resident, Barnes Hospital, St. Louis, Mo.; and Mary-Audrey Mellor, R.N., Hospice of the Valley, Phoenix, Ariz.

The council, composed of physicians, scientists and persons prominent in public affairs, reviews applications for research and training support, reports to the President and Congress on the current status of Institute programs, and makes recommendations concerning future program activities.

Dr. Nachman, in addition to his present positions at Cornell University Medical Center, is director of the specialized center of research (SCOR) in thrombosis at CUMC. He is also attending physician at the New York Hospital, codirector of the Rockefeller-Cornell M.D.-Ph.D. program, a consultant with the Veterans Administration, Manhattan VA Hospital, and visiting physician at the Rockefeller University Hospital.

Born in Bayonne, N.J., Dr. Nachman received an A.B. from Vanderbilt University and an M.D. from Vanderbilt University School of Medicine.

An expert in platelet and blood vessel wall physiology, Dr. Nachman has been awarded many lectureships including Wiessberg Lecturer, Case Western Reserve; and Aggeler Lecturer, University of California, San Francisco.

In addition to his position at the University of Texas Medical School, Dr. Frazier is an associate professor of surgery, University of Texas, M.D. Anderson Hospital and Tumor Institute. He also serves on the courtesy staff, surgery service, St. Luke's Episcopal Hospital; consulting staff, general surgery, Texas Children's Hospital; active staff, surgery service of both the M.D. Anderson and Hermann Hospitals; director, Cardiovascular Surgical Research Laboratories, Texas Heart Institute of St. Luke's Episcopal and Texas Children's Hospitals; and associate surgeon and chief of the Transplant Service, Texas Heart Institute.

A native of Stephenville, Tex., Dr. Frazier received a B.A. from the University of Texas, Austin, in 1963, and an M.D. from Baylor College of Medicine, Houston in 1967. During Dr. Frazier's military service as flight surgeon with U.S. Army 48th Assault Helicopter Company, he received the Combat Flight Medal, the Vietnamese Navy Medal and the Vietnamese Distinguished Service Medal. His other honors and awards include the Outstanding Surgery Student Award, Baylor College of Medicine, and (twice), the Physicians Recognition Award.

Dr. Murray is on the senior staff, Cardiovascular Research Institute, University of California, and is a member of the governing board of the American Board of Internal Medicine, in addition to his present position at San Francisco General Hospital and the University

of California, San Francisco.

Born in Mineola, N.Y., Dr. Murray received an A.B. from Stanford University and an M.D. from Stanford University School of Medicine. He has also received an honorary Doctorate of Science degree from the University of Paris VII.

An author of numerous articles, abstracts and books, Dr. Murray serves in various editorial capacities. He has been awarded many lectureships, including Sommer Memorial Lecturer, Portland; Alpha Omega Alpha Lecture, Louisiana State University; Robert A. Brown Jr. Memorial Lecture, Meharry Medical College; and Morton A. Ziskind Memorial Lecture, Tulane University.

Dr. Hofmann, medical resident, Barnes Hospital, is a native of Pittsburgh, Pa. She received a B.A. with highest distinction from the University of Virginia, Charlottesville, in 1977, and an M.D. and Ph.D. in 1983 from Washington University School of Medicine, St. Louis, Mo.

She has received several honors and awards, including Phi Beta Kappa, Alpha Omega Alpha, National Research Service Award, Medical Scientist Training Program from Washington University, the Dr. Margaret G. Smith Award, and the Dr. Richard S. Brookings Award (twice), all from the Washington University Medical School.

Mrs. Mellor is a member of the Hospice Board of Trustees, Hospice of the Valley in Phoenix. She is also a member of Sigma Theta Tau, Phoenix Nurses Oncology Association, and a member of the Commission on Appellate Court Appointments, appointed by the governor of Arizona, in 1981.

Having grown up in New York, Mrs. Mellor received her Associate in Applied Arts at Briarcliff Junior College, New York, in 1953 and Bachelor of Science in nursing from Adelphi University, New York, where she graduated with honors.

Mrs. Mellor is a recipient of the Mary-Audrey Mellor Award, 1983, presented to the Hospice Nurse of the Year by the Foundation for the National Association for Hospice and Home Care and also a recipient of the "12 Who Care" Honorary Kachina Awards, 1981, presented by the Luke's men (St. Luke's Hospital Medical Center, Phoenix), to honor 12 individuals or organizations throughout the state who have made outstanding contributions through volunteerism to their respective communities. □

NIH Library To Offer Database Search Skills

The NIH Library is offering a new service for NIH staff who already perform searches of NLM databases but want to improve their search skills.

Monthly brown bag sessions will provide informal opportunities to build skills beyond the concepts presented in the class "MEDLINE for the Health Professional" and to get answers to problems encountered in searching.

The group will meet from noon to 1 p.m. in the conference room on the lower level of the NIH Library, Bldg. 10. The first session will be held Tuesday, Sept. 17.

Dr. Lois Tice, NIADDK, Dies

Dr. Lois W. Tice, a medical officer in the Office of the Director, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases (NIADDK), died in a fire at the cottage where she was vacationing in Vermont on Aug. 2. She was 51.

Dr. Tice came to NIH in 1965 as a research scientist in NIADDK's Division of Intramural Research. Her research interests involved the correlation of anatomical structure of cells and tissues with physiological structure. In 1974, she became chief of the Cellular Function and Ultrastructure Section in the Laboratory of Cell Biology and Genetics.

From March-May 1981, she went to England as a Visiting Scientist at the Oxford University department of zoology. From 1983 to 1984, she was acting director of the Division of Diabetes, Endocrinology and Metabolic Diseases' Manpower Development Program.

Born in Detroit, Mich., Dr. Tice received her M.D. degree from Yale University School of Medicine in 1959. Before joining NIADDK, she was an instructor, department of anatomy, Yale University School of Medicine, and a research associate, pathology department, Columbia University College of Physicians and Surgeons, New York City.

A memorial service was held Aug. 13 in the Clinical Center's Bunim Room. Friends and colleagues of Dr. Tice's were invited to hear eulogies given by Drs. Benjamin T. Burton, Willis Foster, and Cyrus R. Creveling of NIADDK, and Dr. Bruce K. Wetzell of NIGMS. Dr. Tice is survived by her parents, Dr. and Mrs. Lloyd Withrow of Michigan.

DCRT Offers Course On Molecular Simulation

A new course in the theory and usage of CHARMM (Chemistry at Harvard Macromolecular Mechanics) for scientists who need to simulate molecular structures is being offered by the Division of Computer Research and Technology. The course will cover energy minimization, dynamics simulation, and setting up needed data structures.

Advanced topics in vibrational analysis, usage of periodic or crystal images, Langevin dynamics, correlation functions, inclusion parameter fitting and how CHARMM interfaces with external graphics programs such as XRAY and PLT2 will also be included.

The course will be given in Bldg. 12A, Rm. B51, 1 to 4 p.m. on the following Thursdays: Sept. 5, 12, 19, 26, and Oct. 3. For additional information or to register, contact Bernard R. Brooks, 496-4576. □

The presentations scheduled for the first four sessions:

- Tues. Sept. 17—Profile
- Wed. Oct. 9—Offsearch
- Tues. Nov. 19—String search
- Wed. Dec. 11—Store search

For more information, call Ed Sunderland at 496-1156.

Bring a brown bag lunch, but—please—no plates or trays from the cafeteria. □

Dr. David Gray Welcomes Cyclist Who Crossed USA for Dyslexia

For 74 days Andy Geiser, a dyslexic student at the University of Hawaii, rode his bicycle from California to Washington, D.C. to raise awareness of dyslexia, a learning disability affecting reading, writing and spelling. The event was sponsored by the Orton Dyslexia Society, Baltimore, Md.

Geiser, who started his tour May 19, was met at the foot of the Nation's Capitol upon his arrival recently by scores of supporters, several members of Congress, and Dr. David B. Gray, coordinator of dyslexia research at the National Institute of Child Health and Human Development. The Institute's Human Learning and Behavior Branch currently spends \$2.7 million on dyslexia-related research.



Andy Geiser (front, left), a dyslexic university student, arrives at the foot of the Capitol steps 10 weeks after starting his cross-country bike tour in California last May. He is greeted by Senator Daniel K. Inouye (front, center), Dr. David Gray of NICHD (front, third from left), and many supporters.

Dyslexia affects an estimated 15 percent of all American school children. It often runs in families and knows no age, sex, race or economic barriers. Dyslexia is not related to intelligence: Albert Einstein, George Patton and Nelson Rockefeller were dyslexic. Although there is no cure for dyslexia, it can be mastered in many cases by specially-designed educational methods.

To receive further information on dyslexia, contact NICHD's Office of Research Reporting at 496-5133 and the Orton Dyslexia Society, 724 York Road, Baltimore, MD 21204; phone (301) 296-0232. □

NIADDK Sets Conference On Kidney Cell/Tissue Culture

NIADDK's Division of Kidney, Urologic and Hematologic Diseases will sponsor a Conference on Cell/Tissue Culture in Renal (Kidney) Research on Sept. 9-10 at the Holliday Inn in Bethesda, Md. Participants from the U.S. and abroad will discuss topics relating to application of cell and tissue culture technology to the physiology and pathophysiology of the glomerulus and renal tubule.

For more information, call Dr. James Scherbenske, 496-7458. □

NIA Recently Appointed Five New Members To National Advisory Council on Aging

Dr. T. Franklin Williams, Director of the National Institute on Aging, recently announced the appointment of five new members to the National Advisory Council on Aging. The new members are Dr. Evan Calkins, Dr. Daniel Gallego, Ms. Valen Kendrick, Dr. John Papaconstantinou, and Dr. Alice Rossi.

NIA supports research and research training on the aging process and the diseases and other special problems and needs of the aged. The 18-member advisory council reviews applications and recommends for approval those projects which merit support. Members are selected from among the Nation's leaders in the fields of fundamental sciences, medicine, and education or public affairs.

Dr. Evan Calkins, professor of medicine and head of the Division of Geriatrics/Gerontology at SUNY, is currently principal investigator of one of the four Geriatric Education Centers supported by the Bureau of Health Professions. A recognized leader in the field of geriatric medicine, Dr. Calkins received his M.D. from Harvard Medical School in 1945. From 1967 to 1977 he was chairman of the Department of Medicine at the State University of New York in Buffalo. His areas of special interest have involved amyloid disease and arthritis. He has testified before Congress on the Nation's health manpower needs and has served on a number of review committees for the National Institutes of Health.

Dr. Daniel T. Gallego has made significant contributions to gerontology at the state, regional and national levels for the past 10 years. His research interests include the effects of relocation rates of minority elderly in community-sponsored programs. Dr. Gallego received his Ph.D. in sociology in 1975 from Utah State University. He is currently professor of sociology/gerontology at Weber State College in Ogden, Utah, and serves on the Board of the State Aging and Adult Services Office.

Dr. Gallego is a former member of the Board of Directors of the Western Gerontological Society (now called the American Society on Aging) and a founding member and past president of the National Hispanic Council on Aging.

Valen M. Kendrick, a family nurse practitioner with more than 20 years of experience in geriatric health care, received her B.S. in Health Care Sciences from George Washington University in 1979. In addition to providing care to both homebound and community-dwelling elderly through the Washington, D.C. Visiting Nurses Association, Ms. Kendrick regularly conducts classes for registered nurses, nurses aides and volunteers, and teaches patients and caretakers about methods and important considerations in caring for the elderly.

Dr. John Papaconstantinou, professor and director, Division of Cell Biology at the University of Texas Medical Branch (UTMB), is a leading investigator and teacher in the field of molecular and cellular genetics. After receiving his Ph.D. in biochemistry from Johns Hopkins University in 1958, he was awarded fellowships from The Carnegie Institution and the American Cancer Society.

Following a period of postdoctoral training in aging at the Oak Ridge National Laboratory in

Oak Ridge, Tenn., he directed studies on liver function in aged laboratory mice and on the structure and function of fetal oncogenes and proteins at UTMB.

He is a past recipient of the AAAS Newcomb-Cleveland Award and a member of a number of national and international scientific societies including the American Association for the Advancement of Science, the American Chemical Society, and the American Society for Cell Biology.

Dr. Alice S. Rossi is a professor of sociology at the University of Massachusetts, Amherst, where her research interests include work on adult development, family theory, and human sexuality and gender roles. She received her Ph.D. in sociology from Columbia University in 1957, and has been awarded several honorary degrees including a D.Sc. from Rutgers University and Northwestern University, and Doctor of Law degrees from Simmons College and Goucher College.

Dr. Rossi is a former member of the Department of Labor's Citizens Council on the Status of Women, Family Law, and Policy and advisor to the National Conference of Commissioners of Uniform State Laws. □

VISITING SCIENTISTS

7/15 **Dr. Jin-Su Choi**, Korea. Sponsor: Dr. Edgar Hanna, Laboratory of Developmental and Molecular Immunity, NICHD, Bg. 6, Rm. 132.

7/17 **Dr. Yu Chang**, China. Sponsor: Dr. Phillip G. Nelson, Laboratory of Developmental Neurobiology, NICHD, Bg. 36, Rm. 2A21.

7/17 **Dr. Lothar Henninghausen**, Germany. Sponsor: Dr. William Jakob, Laboratory of Biochemistry and Metabolism, NIADDK, Bg. 10, Rm. 9N109.

7/17 **Dr. Shuichiro Wantanabe**, Japan. Sponsor: Dr. Janice Chou, Human Genetics Branch, NICHD, Bg. 10, Rm. 10N321.

7/19 **Dr. Yuko Wada**, Japan. Sponsor: Dr. Constance T. Noguchi, Laboratory of Chemical Biology, NIADDK, Bg. 10, Rm. 9N307.

7/21 **Dr. Yukihide Iwamoto**, Japan. Sponsor: Dr. George Martin, Laboratory of Developmental Biology and Anomalies, NIDR, Bg. 30, Rm. 416.

7/21 **Dr. Ezra A. Yagil**, Israel. Sponsor: Dr. Robert Weisberg, Laboratory of Molecular Genetics, NICHD, Bg. 6, Rm. 320.

7/22 **Dr. Urs P. Candiran**, Switzerland. Sponsor: Dr. Marshall Anderson, Biometry and Risk Assessment Program, NIEHS, Research Triangle Park, N.C.

7/22 **Dr. Minoru Isosaki**, Japan. Sponsor: Dr. Harvey Pollard, Laboratory of Cell Biology and Genetics, NIADDK, Bg. 4, Rm. 312.

7/24 **Dr. Giuseppe Palumbo**, Italy. Sponsor: Dr. Harold Edelhoch, Clinical Endocrinology Branch, NIADDK, Bg. 10, Rm. 8N313.

7/29 **Dr. Masahiko Tsuda**, Japan. Sponsor: Dr. Toshimichi Shinohara, Laboratory of Molecular and Developmental Biology, NEI, Bg. 6, Rm. 209.

7/29 **Dr. Kazumitsu Ueda**, Japan. Sponsor: Dr. Ira Pastan, Laboratory of Molecular Biology, NCI, Bg. 37, Rm. 4B27.

The best mirror is an old friend.—English Proverb

Double-Takes at the Clinical Center Means Double Care for the Patients

A heart patient wakes up after surgery and sees double even though the operation was successful. A likely possibility if you happen to be looking at nurses Mary and Marguerite Engler, identical twins, working on the open heart surgery wing at the Clinical Center.

Mary and Marguerite came to NIH over 5 years ago and since then have caused quite a stir among their patients, visitors, and other staffers in Bldg. 10.

The automatic double-takes that people do when they see the twins are nothing new to these two. They have been causing a stir since they were born.

In fact, recently a new clinical associate at the Clinical Center commented to them, "Oh, by the way, are you two working a double?"

Born here in Bethesda, they attended the same grade school, college, and now are working on their doctorates at the same university.

They received their R.N. degrees from Marymount College, their Master's degrees in physiology from American University and now attend Georgetown working towards their doctorates in physiology.

According to Marguerite, "It was just a fortuitous coincidence we ended up in the same field and schools. We never planned it that way."

After receiving their nursing degrees, they both went to work in the Coronary and Intensive Care Unit at Suburban Hospital, next door to NIH. After 5 years at Suburban, they moved across the street due to their research interests.

At NIH, they lead a double life—clinical nurses in the Open Heart Surgical Unit and researchers in NIAAA's Laboratory of Clinical Sciences under the direction of Dr. Norman Salem Jr.

This means working 7 days-a-week, and frequently 16-18 hour days.

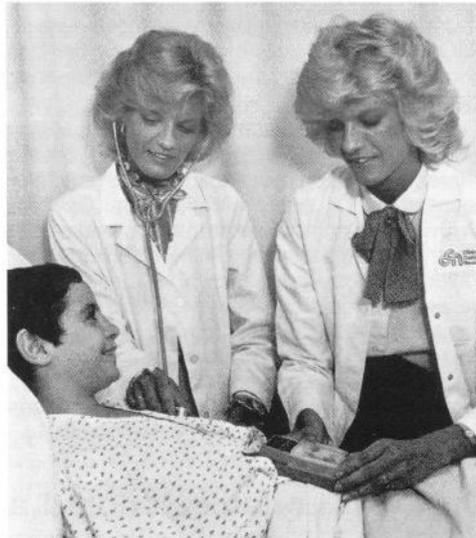
Mary's doctoral dissertation focuses on the interaction of prostaglandin-like metabolites on platelets and cardiovascular smooth muscle tone, while Marguerite's dissertation involves cardiovascular responses, lipid metabolism, and prostaglandins.

They are both currently proposing an additional study on dietary supplementation of fish oil and its beneficial effects in coronary artery bypass patients.

Together, Mary and Marguerite have published several articles and next month have two more articles coming out. "The Effects of Mag-



The twins, Marguerite (l) and Mary using a double microscope. Rather apropos, wouldn't you say?



Here the twins administer to George Kardamalis, an 11-year-old fraternal twin from Greece, who is recuperating from valve surgery. His twin sister, Irene, also had valve surgery a week earlier here at NIH.

"NIH is unique with its vast resources. Where else could you have such a gathering of intellectual and concerned people," they both are quick to say.

One of the reasons Mary and Marguerite became interested in the health field, particularly the heart, is because their families have a history of heart disease.

"With our background in critical care, we think in terms of promoting, maintaining and restoring health to our patients. Research is the basis for attaining this goal."

What do they do for hobbies after working such long days?

"Karate," they respond at the same time. "We both have gold belts."

Summing up their lives, their license tag tells it exactly like it is—ME-II. "De-ja vu" as people say in the Clinical Center all the time.—Anne Barber.



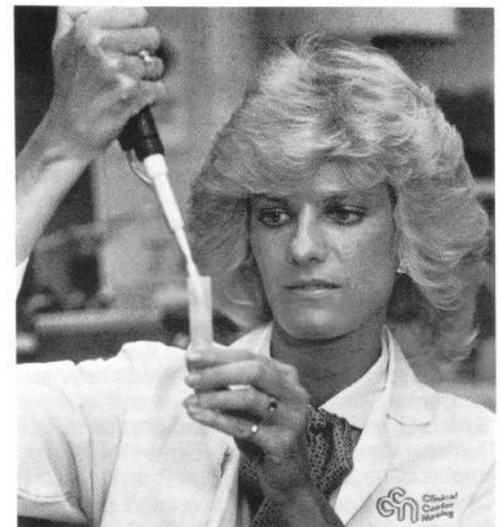
Marguerite eyes the syringe dose being used in an experiment.

netic Resonance Imaging (MRI) on Intravenous Infusion Devices" will be published in the *Western Journal of Medicine* and "Comparative Evaluation of Intravenous Infusion Devices" in the *Heart and Lung Journal of Critical Care*.

Another descriptive article "Magnetic Resonance Imaging (MRI) and its Nursing Implications" will appear soon in the *American Journal of Nursing*.

Very enthusiastic about their research, they consider themselves very fortunate to be working at NIH with such terrific people who are so supportive of their research.

In particular, they would like to thank P. J. Burau, chief, Critical Care Nursing Services, and Lorraine Maciag, head nurse of Critical Care Unit, for all their support.



Mary is pipetting (withdrawing solution) blood components.

Dr. Kakehashi Retires

Dr. Samuel Kakehashi, chief of the National Institute of Dental Research Periodontal and Soft Tissue Diseases Research Branch, retired July 1 after 26 years at NIDR. He held the rank of dental director in the Public Health Service Commissioned Corps from which he also recently retired after 29 years of service.



Dr. Kakehashi

In 1984, Dr. Kakehashi received the Jack D. Robertson Dental Award, one of the highest honors that a PHS dentist can receive. He is also a special lecturer at the U.S. Naval Dental School and the National Naval Medical Center and is a clinical professor of periodontology at the Georgetown University School of Dentistry.

Dr. Kakehashi maintains a private practice and will continue to teach and pursue his interest in skiing. □

Tennis Club Tournament Open

The R&W Tennis Club is sponsoring an open tournament for all NIH employees. Spouses and non-members of the tennis club are eligible to join.

Draw sheets will be posted Sept. 1 at the courts and at the R&W Activities Desk., Bldg. 31, Rm. B1W30.

The tournament will be played throughout September with semifinals and finals at the NIH courts on Oct. 5 and 6.

Several categories of singles and doubles will be offered. However, a category will be cancelled and the fee refunded if fewer than 4 entries are received. Fee is \$2 per singles entry and \$1 per person for doubles. Deadline for receipt of the entry form and fees is Aug. 28.

For further information call 496-4073. □

FAES Sponsors Lecture On Carbohydrates Sept. 5

Professor Akira Kobata, Fogarty Scholar-in-Residence, will present a lecture entitled "Structure and Function of Carbohydrates," Thursday, Sept. 5, at 1 p.m., in the ACRF Amphitheatre.

Professor Kobata is chairman and professor, department of biochemistry, Institute of Medical Science, University of Tokyo, Japan. For more information, call 496-7976. □

Dr. Andrew Monjan To Head NIA's Immunology Program

Dr. Andrew A. Monjan has recently joined the NIA Extramural Program as head of the immunology program in the Physiology of Aging Branch, Biomedical Research and Clinical Medicine Program.

The main objective of the Immunology Program is to support research on age-related changes in immune function. It is known that immune function declines with age, hampering the body's ability to fight infection and possibly certain malignancies. This decrease in immune responsiveness may play a role not only in the development of disease, but in the aging process itself and even death.

Past research in the field has described many phenomena associated with the aging immune system. Dr. Monjan hopes to build upon this existing foundation with studies that will elucidate the mechanisms and clinical significance of these phenomena.

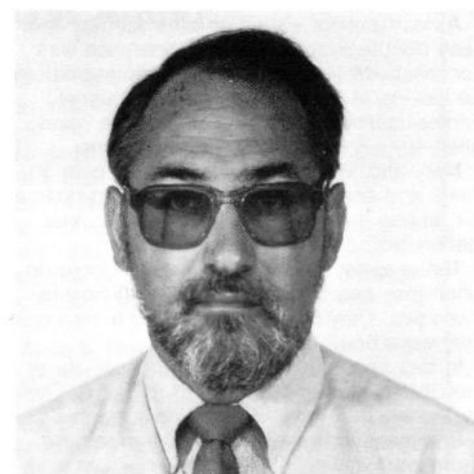
For example, new findings are providing clues about the role of the central nervous system, the thymus gland, and the thymic hormones in immune cell development and function.

Stress is thought to play an important part in immune suppression through its effect on hormones controlled by the neuroendocrine system.

Under Dr. Monjan's direction, the program will explore the effects of stress and other psychosocial factors on the neuroendocrine and immune systems.

Dr. Monjan stresses that "the immune system is not isolated—it is a complicated network that interacts with all physiological systems." This recognition is coupled with new approaches to studying the immune system at both the cellular and molecular level. Dr. Monjan hopes to foster the cross-fertilization of disciplines necessary to understand how the whole organism functions and, ultimately, to restore immune responsiveness in the elderly.

Dr. Monjan brings with him a broad background in immunology, virology, epidemiology, neuroscience and psychology. He comes to



Dr. Monjan

NIA from the National Cancer Institute, Division of Cancer Etiology, where he directed a program on AIDS epidemiology, another area requiring multidisciplinary expertise.

Before working at NIH, Dr. Monjan held senior faculty positions in the Department of Epidemiology at the Johns Hopkins University and the Departments of Psychology and of Physiology at the University of Western Ontario, Canada.

His career training includes a PHS postdoctoral fellowship at the Center for Brain Research at the University of Rochester, N.Y., where he studied visual neurophysiology, and a Master of Public Health degree from the Johns Hopkins University.

Dr. Monjan was elected to the Society of Sigma Xi and has been cited in "Who's Who in Frontier Science and Technology," and "Who's Who in the East." He is a member of the American Association of Immunologists, the American Society for Virology, and other professional societies. □

Dr. Lynn Loriaux Honored as Top Clinical Educator

Dr. D. Lynn Loriaux, an endocrinologist and clinical director for NICHD, has been named the Clinical Center's first annual Distinguished Clinical Educator.

The award, made by the Medical Staff Fellows Committee, was initiated this year to recognize senior staff members who have combined outstanding scientific careers with especially good relationships with patients and students.

"Science at the bedside rather than at the bench needs to be recognized here," said CC Director John L. Decker, explaining the origin of the award. "We must make sure we don't set aside patients in the rush for high science. Physicians can be spoiled by the many skilled caregivers here. The responsibility and joy of the doctor's role is to make certain that caring is there."

Dr. Lorraine Fitzpatrick, a physician with NIADDK and a member of the selection committee, made remarks honoring Dr. Loriaux at the presentation, which was held during CC Grand Rounds recently.

"We wanted a role model, a person who could bridge the gap between care for the patient and rapidly advancing technology in research," she said.

"Dr. Loriaux's genuine concern for his patients is only paralleled by his nurturing attitude towards his physician-pupils. He derives equal pleasure and the intellectual growth of his young colleagues."

Dr. Fitzpatrick said that Dr. Loriaux is uncommonly adept at explaining complex medical problems in terms his patients, nurses and students can appreciate.

"If there were any award I'd want to win, this would be it," said Dr. Loriaux, who accepted a plaque from Dr. Decker. A permanent plaque honoring each year's distinguished clinical teacher will be mounted in the hospital. □

Everyone is a moon and has a dark side which he never shows to anybody.—Mark Twain

The lack of money is the root of all evil.—Mark Twain

Dr. Carl Pinsky Joins NCI

Dr. Carl M. Pinsky recently joined NCI as chief of the Biological Resources Branch, Biological Response Modifiers Program. This program is one of five areas of research in the Division of Cancer Treatment.

Dr. Pinsky was formerly an associate attending physician and head of a clinical immunology clinic at the Memorial Sloan-Kettering Cancer Center in New York City.

Dr. Pinsky's research deals with the role of the immune system in the treatment of cancer. He has been conducting human trials with biological and chemical substances that augment or restore many of the normal defenses of the body.

These agents, known as biological response modifiers, may also be useful as anticancer agents.

Through grants and contracts, the Biological Resources Branch supports preclinical and clinical research on biological response modifiers. Many of these substances occur naturally in the body, while others are made in the laboratory.



Dr. Pinsky

Dr. Pinsky's branch monitors Phase I and early Phase II clinical studies to assess the effects of biological response modifiers in patients and correlates the effects with anticancer activity. The branch also has a screening program to identify new agents for further study.

Dr. Pinsky graduated from University of Pennsylvania in 1960 and earned his M.D. from Jefferson Medical College in 1964. He interned and did his residency in medicine at the University of Kentucky Medical Center from 1964 to 1966. He completed his medical residency in 1967 at the Memorial Sloan-Kettering Hospital for Cancer and Allied Diseases, where he continued as a clinical research trainee until 1970, and then held various staff positions until his appointment to NCI.

Dr. Pinsky has authored or coauthored more than 60 publications and has been on the editorial board of the *Journal of Biological Response Modifiers* since 1982.

He is a member of many scientific and medical societies and has been a consultant for the Experimental Immunology Study Section of NIH (1980-1984) and the Decision Network Committee of the Biological Response Modifiers Program (1982-1985). □

Dr. Warner Greene Awarded Immunology—Oncology Prize

Dr. Warner Greene, senior investigator in the NCI Metabolism Branch, received the Washington Academy of Sciences Award in biological sciences for his work in immunology and oncology. The Academy, founded in 1898, is a consortium of 50 scientific organizations in the D.C. area.

Dr. Greene has been investigating how T cells mobilize a specific immune response by multiplying and maturing into populations of helper, suppressor, or killer cells, depending on the body's defensive need. His laboratory group has found several clues that show why and how this system's highly sensitive regulation may go awry, causing the uncontrolled growth of cancer.

The scientists are studying a protein critical to the sequence of immune events. This protein molecule acts as a receptor for interleukin-2 (IL-2) or T cell growth factor. T cells at rest express no IL-2 receptors on their surface until they are activated by some foreign antigen. Then their genes start to produce IL-2 and to express the IL-2 receptors.

To study how the expression of the IL-2 receptor is induced, Dr. Greene and his group identified a monoclonal antibody (anti-Tac) that reacted with the human IL-2 receptor. By using anti-Tac as a tracking tool, they isolated the receptor protein and identified its biochemical structure. Later they cloned the complementary DNA that codes for the IL-2 receptor.

By using the cloned DNA as a probe, the scientists found that the human cell has only one gene that codes for the receptor protein, but that gene produces several receptor messenger RNAs instead of the usual one. These messengers have different lengths because they have different mRNA stop signals.

Messengers Found

The scientists found messengers that had been processed differently: one form encoded a functional IL-2 receptor while the other did not. The RNA that produces the nonfunctional protein splices out a series of bases that encodes important amino acids. They are now investigating whether this protein that does not function as a receptor affects the immune response in some other way.

Having identified these messenger RNAs, Dr. Greene and his colleagues next determined the sequence of amino acids for the human IL-2 receptor. They cloned the IL-2 receptor gene and found that it is located on chromosome 10.

Dr. Greene developed a sensitive assay to measure IL-2 receptors in normal and cancerous cell populations. With this assay he showed that IL-2 receptors are not expressed constantly during normal T cell activation.

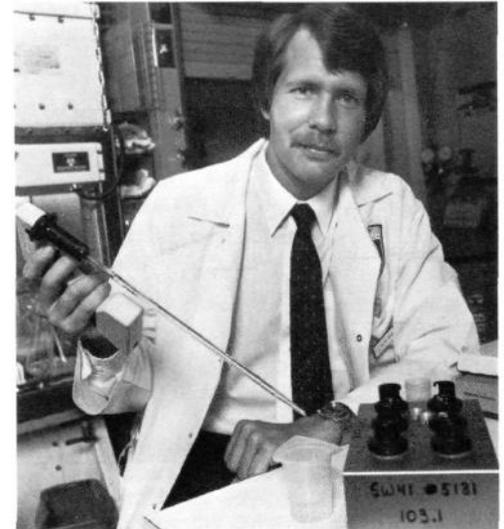
Rather, in a normal response, the number of receptors expressed drops back, causing T cell proliferation to slow down, thus turning off the immune response. Apparently the normal immune response depends on the number of IL-2 receptors as well as the IL-2 growth factor.

The scientists found that certain agents could reactivate T cells that had lost the majority of IL-2 receptors. Each of these agents activates an enzyme responsible for the energy transfer (phosphorylation) needed to activate the expression.

As a result of these experiments the group is now investigating the possible importance of

this phosphorylating enzyme in the regulation of the T cell immune response.

The group has developed a test to identify adult T cell leukemia (ATL), a blood cancer caused by the human T cell leukemia virus, HTLV-I. These leukemic cells always express IL-2 receptors, whereas other T cell leukemias do not.



Dr. Greene

Because ATL is often a rapidly fatal cancer with no effective therapy, Dr. Greene initiated a series of laboratory experiments to see if an antibody against the IL-2 receptor, when armed with a toxin, can selectively kill the leukemic cells without harming the normal cells. Normal cells lack the receptors.

The scientists found that the armed antibody extensively killed the leukemic but not the normal cells, thus opening the way for the use of these agents to treat ATL patients.

Dr. Greene joined the Metabolism Branch in 1979 and became a senior investigator in 1983. Since 1981, he has also been assistant clinical professor of medicine in the Department of Medicine at the Uniformed Services University of the Health Sciences.

He received his B.A. with "great distinction" from Stanford University, and his M.D. and Ph.D. "with honors" from Washington University School of Medicine, St. Louis. He completed his internship and residency in internal medicine at the Massachusetts General Hospital. He is author of more than 80 scientific publications. □

Camera Club to Meet Sept. 10

The next meeting of the NIH/R&W Camera Club will be held on Sept. 10, at 7:30 p.m. in Bldg. 31, Conf. Rm. 2.

The subject for the photo competition is open: an image of any subject matter may be entered. Categories of entries are prints (black and white and color) and colored slides. The two classes within each category are novice and advanced.

Anyone interested may attend the meeting and join the club. Meetings are held every month, and the club sponsors a darkroom at NIH for members use. □

Dr. Jacob A. Brody, NIA Epidemiologist, Retires; Will Become Dean of School of Public Health

Dr. Jacob A. Brody, associate director for the Epidemiology, Demography, and Biometry Program, National Institute on Aging (NIA), has retired from the Public Health Service after 28 years of government service. He will move on to new challenges in Chicago where he will become the Dean of the School of Public Health at the University of Illinois.



Dr. Brody

As associate director for the past 8 years, he directed NIA's multidisciplinary program in epidemiology and was responsible for major prospective studies of national and community-based elderly populations. These target groups will serve as a nucleus for studies on the epidemiology of aging in this country for years to come.

Dr. Brody's early career focused on infectious disease epidemiology with considerable time devoted to laboratory research. He pursued a series of major epidemics and field studies on a wide array of diseases in numerous countries around the world. His fluency in Spanish, Russian, and French was very useful in this early work.

Some notable accomplishments of Dr. Brody's include work which led to the first complete description of the natural history of rubella, its clinical course, virus transmission, and the public health implications of the disease during an island epidemic.

His studies on measles provided an early suggestion of the potential hazards of attenuated viruses used in the production of vaccines. Dr. Brody's studies of how viral vaccines interfere with the host's immune system led to a series of publications which influenced national recommendations on the timing and sequence of vaccination in children and military recruits.

In 1981, the U.S. Public Health Service presented Dr. Brody with the Distinguished Service Medal, and cited him as the "most highly decorated member of the Commissioned Corps."

Dr. Brody was recently honored by his friends at a retirement party at the National Naval Medical Center Commissioned Officer's Club. With Dr. Edward Schneider, NIA Deputy Director presiding, Dr. Brody was "roasted" in a musical production by Dwight Brock (a coworker of Dr. Brody) and his wife, Mary.

NIA Director Dr. T. Franklin Williams presented Dr. Brody with the NIA Medallion, a

bronze medal honoring those who have contributed to establishing the research directions and priorities of the Institute. Dr. Manning Feinleib, Director of the National Center for Health Statistics, reminisced about his special respect for Dr. Brody as a colleague and friend. □

JAVITS CENTERS

(Continued from Page 1)

will be under the direction of Dr. Gerald D. Fischbach. He and his colleagues will study the formation of synaptic connections and the degree to which these connections change over time in adult animals. New knowledge about normal development and plasticity of synapses will advance the understanding of pathological situations in which synaptic connections either fail to form properly or degenerate prematurely.

At the Yale University Javits Center, Dr. Pasko Rakic will head a research team studying the brain's neocortex on molecular, structural, physiological, and behavioral levels. These scientists will examine the normal organization, development, and modifiability of this brain region.

The Centers honor former Senator Jacob Javits of New York, who suffers from amyotrophic lateral sclerosis, the degenerative neurological disorder also known as Lou Gehrig's disease. Senator Javits has championed research support for a wide range of disorders of the brain and central nervous system. □



Carol R. Swyt (r), physical scientist, and Richard D. Leapman (l), visiting scientist, of the Electron Beam Imaging and Microspectroscopy Group in the Biomedical Engineering and Instrumentation Branch, DRS, have won the 1985 Birks Award for their paper presented at the 1984 Microbeam Analysis Meeting. The cash award—presented annually for the best paper delivered at the national meeting of electron beam microanalysts—was presented Aug. 7 at a joint meeting of the Microbeam Analysis Society and the Electron Microscopy Society of America.

NIMH Seeks Men For Dyslexia Study

The National Institute of Mental Health's Child Psychiatry Branch is seeking right handed men, age 30 or under, with 9 to 13 years of education and no history of learning or behavioral problems, to participate as normal volunteers in a research study on dyslexia and brain functioning. Time involved is approximately 5 days to be spread over several months.

Volunteers will be paid for their time.

If interested, call Dan Walsh, 496-9070. □

Nine New Members Named To Arthritis Advisory Board

Nine new members have been appointed to the National Arthritis Advisory Board. The new members are Drs. Henry J. Mankin, Allen C. Steere, Jr., Darwin J. Prockop, Matthew H. Liang, Paulding Phelps, Ralph Synderman, Bernhard H. Singen, Dawn M. Hafeli, and Jane Walter.

Dr. Mankin, Edith M. Ashley professor of orthopedic surgery at Harvard Medical School in Boston, is a leader in the field of orthopedic surgery.

Dr. Steere, associate professor of medicine at Yale University School of Medicine in New Haven, Conn., is recognized for his expertise as a clinical investigator and an epidemiologist in the field of rheumatology.

Dr. Prockop, chairman and professor of biochemistry at the University of Medicine and Dentistry of New Jersey Rutgers Medical School in Piscataway, is recognized as an outstanding clinical investigator, physician, and biochemist in arthritis and connective tissue research.

Dr. Liang, director of the Robert B. Brigham Multipurpose Arthritis Center at Brigham and Women's Hospital in Boston, is a noted rheumatologist, physician, and instructor in health services, research and rehabilitation.

Dr. Phelps, an associate staff member at the Westbrook Community Hospital in Westbrook, Me., is a leading rheumatologist and clinical practitioner in arthritis.

Dr. Snyderman, chief of the division of rheumatology and immunology at Duke University Medical Center in Durham, N.C., is a member of the American Rheumatism Association, the American Association of Immunologists, and the American Society for Clinical Investigation, among others.

Dr. Singen, associate professor of child health, internal medicine, and pathology at the University of Missouri Health Sciences Center in Columbia, is a leading pediatric rheumatologist who is recognized for his research in pulmonary involvement in children with rheumatic diseases, mixed connective tissue disease, and Reiter's syndrome.

Mrs. Hafeli, co-chairman of the juvenile arthritis parent group of the Michigan chapter of the Arthritis Foundation, is an active supporter of both the Arthritis Foundation and the American Juvenile Arthritis Organization (AJAO).

Ms. Walter, associate director of the Multipurpose Arthritis Center at Dartmouth-Hitchcock Medical Center in Hanover, N.H., serves on the Arthritis Foundation's task force on model curricula and is a member of the Arthritis Foundation's arthritis health professions association. She organizes conferences and gives lectures to professionals and lay groups related to arthritis management and care. □

R&W Goes to Inner Harbor

R&W is going to Baltimore's Inner Harbor to visit the new Power Plant and go on a journey through time and space to a magical world of fun and fantasy or you can visit the National Aquarium of marine animals. No matter which package you choose you will have time to explore the quaint boutiques and unique restaurants located in the Inner Harbor.

Sign up at the R&W Activities Desk, Bldg. 31. □

KRESHOVER LECTURE

(Continued from Page 1)

tory gum disorders that are rapidly becoming the number one dental public health problem.

An estimated 94 million people currently suffer from some form of periodontal disease which undermines—and can eventually destroy—the supporting structures of the teeth.

Dr. Genco's research on host response to attack by periodontal pathogens has provided valuable information about the protective role of neutrophils, white blood cells that migrate quickly to the inflammation site, engulf and kill foreign microorganisms.

His most recent studies have focused on neutrophil function and biochemistry in localized juvenile periodontitis (LJP), a particularly virulent form of periodontal disease that afflicts adolescents and young adults.

Dr. Genco and his associates have found that 75 percent of LJP patients have depressed neutrophil chemotaxis (the movement of a cell in response to a chemical stimulus). This decrease in cell movement is associated with a reduced number of surface receptors that bind certain chemotactic factors. These factors are chemicals released in inflamed tissues that signal the neutrophil to move directly toward the infection site.

The research team has further demonstrated that the defective neutrophil chemotaxis is familial. Moreover, recent investigations now show that in these patients, there is a marked reduction in GP-110, a glycoprotein on the surface of the neutrophil that may play a key role in the movement of the cell toward the infection site. Studies are continuing in an effort to further characterize the role of GP-110 in the movement of both normal and defective neutrophils.

Dr. Genco received his B.S. degree from Canisius College in 1959 and his D.D.S. in 1963 from the State University of New York (SUNY) School of Dentistry at Buffalo. A U.S. Public Health Service Postdoctoral Fellow, he earned a Ph.D. in microbiology and immunology in 1967 from the University of Pennsylvania, and completed a residency in periodontics.

Dr. Genco has been affiliated with the School of Dentistry at SUNY Buffalo since 1967 where he now serves as professor and chairman of the department of oral biology. He is presently director of the Periodontal Disease Clinical Research Center, one of three such centers supported by NIDR.

Active in numerous professional societies, Dr. Genco is president of the American Association for Dental Research. In 1980, he served as dental section chairman of the American Association for Advancement of Science. Since 1975, he has chaired several committees of the American Academy of Periodontology and the International Association for Dental Research.

He is also a member of the American Association of Immunologists, the American Association of Microbiologists, the American Dental Association, and the New York Academy of Science.

The author of over 100 scientific publications, Dr. Genco serves on the editorial board of *Infection and Immunity* and the *Journal of Dental Research*, and is an associate editor of the *Journal of Periodontal Research*. □

LEARNING

(Continued from Page 1)

learning to changes in membrane channels. Although by some standards this progress seems to have occurred at a snail's pace, by scientific conventions the advances the investigator has made are remarkable.

"I was confident that one day we would be able to explain learning on a cellular level," says the 42-year-old scientist, reflecting on his accomplishments. "But I didn't anticipate that it would be in my lifetime."

That answers have come at all is a direct consequence of the lowly snail's easy-to-study nervous system. Because its brain contains only 6,000 nerve cells—versus a trillion for a human—the snail serves as a scaled down model for studying the principles of learning. Dr. Alkon chose the snail—properly called *Hermisenda crassicornis*—over other animals with tiny brains because the nerves of its visual and balance systems lay close together.

"This proximity suggested convergence—the connecting of two nerve pathways," Dr. Alkon explains.

Pathways Converge

Pathways that converge can pass information to each other, modifying thoughts or behavior. Dr. Alkon believes convergence is the key to how animals and humans learn to associate one experience with another.

In *Hermisenda*, Dr. Alkon discovered, the visual and balance systems did converge—certain nerve cells called Type B received signals from both systems.

With the connection established, Dr. Alkon developed a training procedure based on two distinct behaviors to see if *Hermisenda* could indeed learn to associate one event with another.

Light attracts the snail, and the animal naturally moves toward it. Turbulence, however, causes *Hermisenda* to cling to surfaces—a reaction that, in the ocean, protects its delicate, shell-less body from being torn apart in the waves of a storm.

Snails being trained were positioned in one end of a tube of sea water, which was placed on a turntable in a darkened box. The animals were then exposed to a flash of light, followed an instant later by a "turbulence" caused by the spinning of the turntable. After several rides, the snails, which at first instinctively migrated toward the illuminated area, held fast as soon as the light flashed on. They had learned to associate the attractive light with unattractive turbulence.

Trained Snails

Dr. Alkon compared trained snails with unconditioned snails and with snails exposed to random combinations of light and rotation. He found biophysical and biochemical changes in nerve cells of trained animals that suggested learning did have a measurable effect on the nervous system, specifically on the Type B nerve cells—the cells common to the visual and balance systems.

He discovered that as learning occurs, channels controlling the outflow of potassium through the membranes of Type B cells close. When these membrane channels are closed and potassium is retained, the B cells increase the inhibitory messages they send to other

nerve cells, and this ultimately prevents the snail from turning toward light.

In addition to changes in potassium, Dr. Alkon also found that learning alters calcium levels in B cells.

"When the animal is being trained, calcium repeatedly rises to much higher levels than it usually does inside the cell," Dr. Alkon says. Two to three days after training, calcium levels return to normal, but the potassium channels remain closed.

The connection between calcium and the closing of potassium channels seems to lie in the ability of increased calcium to activate a certain cellular enzyme that chemically modifies the structure of other proteins. Dr. Alkon's evidence suggests it is these structurally altered proteins that close off the potassium channels in the membrane when learning occurs.

The snail's ability to learn that light precedes rotation, like a magnetic tape's capacity to reproduce music, depends on discrete changes: when the snail learns, its potassium channels are changed.

A Biological Record

"These changes create a biological record of learning," Dr. Alkon says.

To show that changes in the membranes of nerve cells do indeed produce learning, Dr. Alkon and coworker Dr. Joseph Farley of Princeton University designed an experiment to artificially induce the behavior that the snails learned on the turntable.

If learning can be broken down into concrete measurements or changes, the scientists reasoned, the changes themselves should provoke the new behavior. In this experiment, Dr. Farley placed electrodes in the B cells of *Hermisenda* that had never been on the rotating table. Immediately after a light flashed on, Dr. Farley sent a current through the electrodes into the B cells to simulate the membrane changes that occur during learning.

When these snails were then placed on the turntable, they acted just like animals that had trained for hours—they stood still at the first glimpse of light. They, too, had learned.

"Learning is directly related to the channel properties of membranes," says Dr. Alkon, "specifically to the closing of potassium channels."

The NINCDS scientist was now ready to move on to a more complicated animal model. To test the applicability of his hypothesis to learning in general, Dr. Alkon devised a series of experiments with rabbits.

Like the snails, the rabbits were trained to associate two stimuli: a puff of air, which causes the eye to blink reflexively, and a tone. Trained rabbits learned to blink at the sound of the tone.

Brain slices from trained and untrained rabbits were taken from the hippocampus, an area believed to be associated with memory in mammalian brains. Potassium channels in hippocampal nerve cells from trained rabbits were found to be closed just like potassium channels in the B cells of trained snails. Dr. Alkon concluded that at least one mechanism recording learning in both animals is the same.

"The snail and the rabbit experiments are the first to show that associatively learned information can be recorded somewhere," Dr. Alkon says. "It seems very reasonable that the same recording mechanism may be present in humans as well." □

Swallowing Isn't So Simple For Many People: Specialists Review Problems and Some Remedies

By Laurie Doepel

Swallowing difficulty—or dysphagia—is a problem not widely publicized or heard about.

In part, this is because difficulty in swallowing usually does not arise alone but often accompanies a host of larger medical problems.

Information about it, however, is widely scattered throughout various medical disciplines and specialists from 18 of those disciplines met at NIH in June for a 2-day conference on the problem(s).

It was the first meeting to convene the gamut of medical and allied professionals working in this area. Various experts, including pediatricians, gerontologists, dentists, radiologists, dietitians, neurologists, gastroenterologists, speech-language pathologists, and others, presented evidence of swallowing's far-reaching role in health and disease.

The conference, by bringing the bits and pieces of knowledge together under one focus, showed how continued communication and cooperation among these specialists could potentially advance clinical and basic research in the field.

Swallowing disorders cut across a broad range of ages, diseases, and conditions. They may arise from a congenital disease or condition, such as cystic fibrosis, cerebral palsy, or xerostomia (lack of saliva).

Other causes may be developmental—aging, multiple sclerosis, head or neck cancer, Parkinson's disease—or traumatic, such as stroke or accidental head injury.

From the infant with cystic fibrosis who is just learning to eat to the elderly patient recovering from a stroke, overcoming swallowing problems is vitally necessary.

"If you can't get nutrition, you're not going to live," says Dr. Barbara Sonies, chief of Speech Language Pathology at the Clinical Center and conference co-organizer. And because mealtime often is an important social function, especially as one gets older, inability to swallow can have psychological effects as well.

While feeding tubes inserted through the nose or directly to the stomach can bypass the swallowing mechanism, over the long term it is difficult to get adequate nutrition this way, and patients being weaned off the feeding tube often experience nausea or gagging.

However, Dr. Jeri Logemann, chairman of the department of communicative disorders at Northwestern University and co-organizer of the conference, reported that she and others are now retraining people to swallow while they have the feeding tube in.

By reducing the size of the tube and doing some oral feeding, they have shown that prob-



A recent conference on swallowing and swallowing disorders held at NIH drew specialists from 18 disciplines. Co-chairpersons of the conference, in the front row, are Dr. Jeri Logemann, chairman of the Department of Communicative Disorders at Northwestern University (l), and Dr. Barbara Sonies, chief of Speech-Language Pathology at the NIH Clinical Center (r). Standing at rear are (l to r): Dr. Bruce Baum, clinical director of the National Institute of Dental Research; Dr. David Yoder, Walker-Bascom professor in the Department of Communicative Disorders at the University of Wisconsin; and Dr. John Decker, Director of the NIH Clinical Center.

lems created by a feeding tube can be reduced.

Most people don't think twice about swallowing and are unaware that they swallow about 580 times a day. (During sleep, you can pass 20 minutes without a swallow.) But as shown at the meeting, the subtle aspects of swallowing—including its mechanics, its neurological basis, and the population of people most susceptible to dysphagia—do not go unnoticed by researchers who study swallowing.

Dr. Sonies has found that swallowing slows down significantly with age. Also, women show a more significant slowdown than men, especially during "dry" swallows, those performed without water or other liquids.

While most people accommodate to these normal age-related changes, such changes, coupled with a neurological problem such as Parkinson's disease or stroke, can create a serious swallowing disorder.

Swallowing traditionally has been considered an involuntary mechanism controlled by the brain's subcortex.

U.S. GOVERNMENT PRINTING OFFICE 1985-461-310/10024

However, a study of patients who have suffered a stroke or have Parkinson's disease—reported by Drs. JoAnne Robbins, Robert Sufit, and Ross Levine of the Department of Neurology at the University of Wisconsin—raises the question whether some swallowing disorders may arise in the cortex as well as the subcortex.

If so, it may be possible to treat some dysphagics with drugs. Following the example of neurologists who now give patients drugs (such as levodopa) that speed up metabolism to overcome speech problems, the University of Wisconsin researchers are testing the same and related drugs as possible therapy for swallowing disorders.

Surgery for head and neck cancers is a common cause of dysphagia. Because part of the tongue or oral cavity sometimes must be excised in these patients, prosthetic devices can be fitted in the patient's mouth to help control food and liquid.

Dr. John Davis, a fellow in oral oncology at Northwestern University Dental School in Chicago, told conference attendees that artificial devices that best restore normal swallowing are not necessarily of the same design as those that best restore normal speech. Thus a compromise design often must be chosen.

Dr. Thomas Shawker, chief of ultrasound imaging at the NIH Clinical Center, described the new application of ultrasound imaging to study tongue function in the oral phase of swallowing, an area of study largely ignored until about 6 or 7 years ago. Drs. Shawker and Sonies are codevelopers of the technique.

Compared to barium X-rays, which traditionally have been used to study the pharyngeal region, ultrasonography is faster, easier, and non-invasive. Because it doesn't involve radiation, it can be safely repeated and used even with children or suckling infants. Although ultrasonography now is limited to studying the oral phase of swallowing, it holds great promise for future development.

Conference organizers concluded that because swallowing disorders have many causes, researchers studying them need to:

- develop diagnostic and treatment teams to tap the wealth of existing knowledge and experience and enhance patient care;
- initiate multidisciplinary training programs to increase the number of professionals qualified to diagnose and treat dysphagic patients;
- hold more multidisciplinary conferences to promote the exchange of information and ideas.

The proceedings of the conference—which was jointly sponsored by the National Institute of Dental Research, the Clinical Center's Department of Rehabilitation Medicine, and the American Speech-Language-Hearing Association—will be published early next year. □

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